

Conductor Capacity—Each of the two bars in the enclosure is a separate conductor with a capacity of 100 amperes. The capacity can be doubled by tying the bars together within a single enclosure so that the assembly is handling one phase only. For installations using direct current, single phase A.C., or 3 phase A.C. with grounded rail as provided in Article 610 of the National Electrical Code, only a single run is needed. Three or four wire installations require two runs. When two runs are used for 3 phase A.C., the fourth conductor has an advantageous use as a traveling ground.

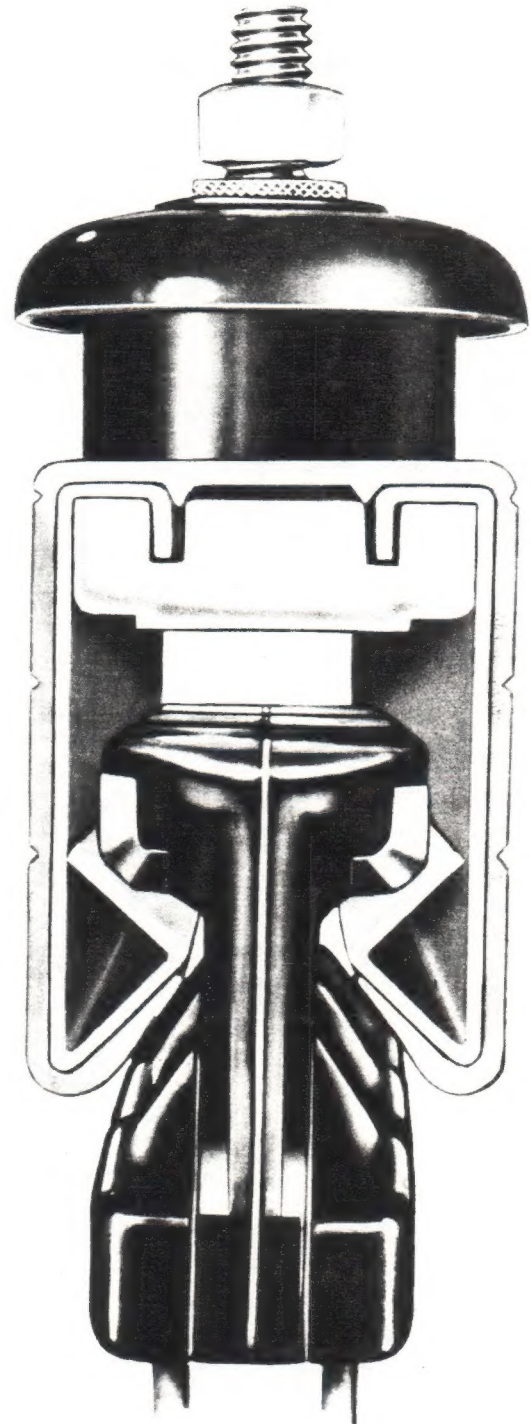
Versatility—The conductor is stocked and shipped in standard 10-foot lengths, but is easily cut for odd lengths when needed, or bent in the field to form curves. *NOTE: Curved electrification not furnished from factory. Bend to suit at installation.*

Supports—On straight runs of monorail or on crane runways or bridges, Wright Enclosed conductor should be supported on approximately 5-foot centers, or two support brackets and support insulators per conductor section. However, curves and switches usually require additional supports. For curves up to and including a 5-foot radius, and with central angles from 45° to 90°, one support should be placed near the center of the arc, with one on the tangents at each end. For larger radius curves, two or more supports may be needed on the arc, with centers not to exceed 4 feet. On short radius curves with central angles of less than 45°, the center support may be omitted.

Three or four wire systems with two runs require two support brackets per 10-foot section, and two support insulators per bracket.

Installation and Servicing—Complete installation instructions are included with each shipment. Installation is very simple and can be accomplished with ordinary hand tools. Only in bending curves for a monorail system are any special tools required, and even then one man can complete the job using a bending hickey or iron.

If it is necessary to remove a current collector, it can be done at any point in the system. The lower lips of the conductor can be sprung apart sufficiently for removal or replacement without damage to the bar. This should be done with a non-metallic object, and about midway between spacer insulators.



Wright enclosed electrification for monorail, bridge and runway electrification is offered only as complete assemblies, consisting of Units A, B, C, D, F and G.

Current collectors, Unit E, are offered with hoists, cranes, and crane components.

Individual parts may be ordered through the Hoist & Crane Division Service Department.

The conductor section (Unit A) is made up of two roll-formed, zinc-coated steel bars securely positioned in an assembly by spacer insulators. This assembly is housed in a heavy neoprene or vinyl cover, completely covering all external surfaces of the conductors, forming an inverted U-shape with a $\frac{5}{8}$ " slot opening at the bottom to accommodate the sliding shoe collector.

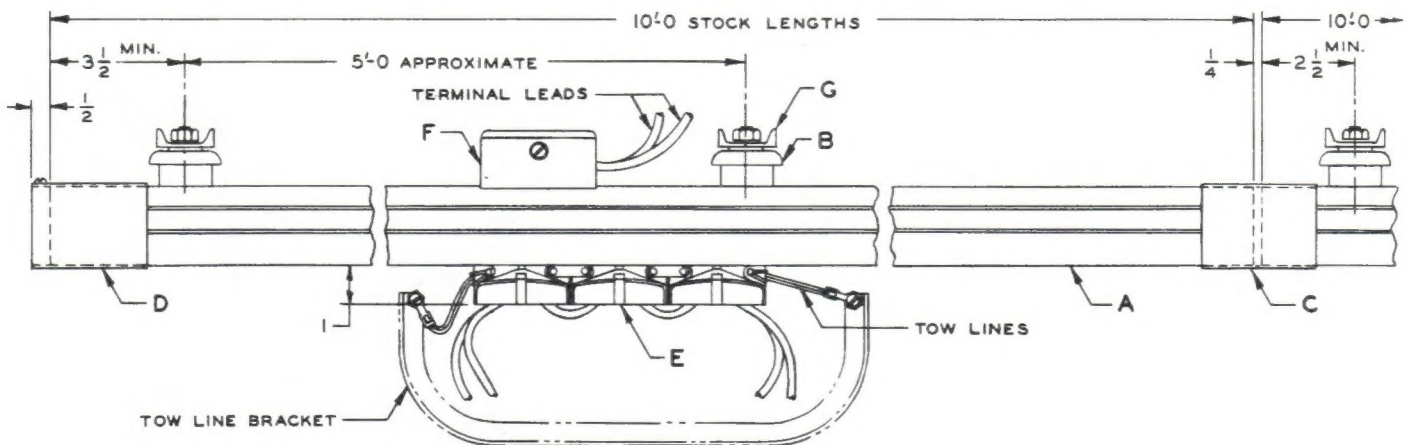
The lower insulator (Unit B) is joined to the upper insulator through a sleeve insulator by a machine screw. This assembly of insulators with the machine screw is known as the support insulator, designed to prevent any seepage of moisture onto the conductors.

Self-cleaning angular contact surfaces of the conductors match the sliding surfaces of the bronze collector shoes (Unit E), keeping

them free from dust and assuring good contact at all times. The proper contact pressure is maintained by gravity alone, and no springs or other mechanical devices are required.

The collector is a two-pole unit with three electrically connected contact shoes on each side. This sectional type of construction allows smooth operation on curves, gaps at transfer points, and where misalignment is too severe to be negotiated by a rigid type of collector. It carries a current rating of 30 amperes, adequate for the average installation. When total connected horsepower necessitates a higher capacity, two or more collectors may be mounted in tandem.

Splice dowels and splice bars (Unit C) are used to join two or more conductor sections together. The dowels provide a smooth but rigid mechanical joint, while the bars maintain electrical continuity. Joint covers provide additional support at the joints and protect against any possible contact with conductors. End closures (Unit D) provide the same protection at the ends.

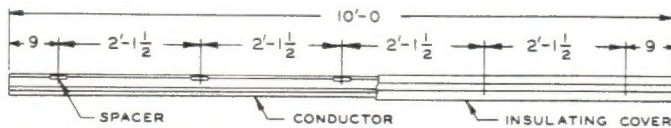


Complete Wright Enclosed Electrification Assembly

Unit A—Enclosed Conductor System
Unit B—Support Insulator Assembly
Unit C—Splice Assembly

Unit D—End Closure
Unit E—Current Collector
Unit F—Power Feed
Unit G—Support Brackets

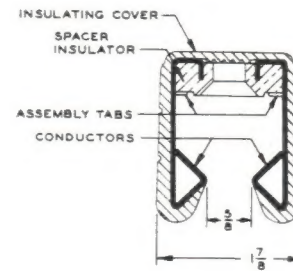
Enclosed Conductor Section (Unit A)—Product Number 6700660 2 pole—100 amp—600 V, 10'0" length, 18 lbs.



Location of factory assembled spacers

Specifications

Part	Material	Electrical Properties	
		Dielectric Strength	Approx. Volume Resistivity
Cover	Neoprene Vinyl	640 V. per mil 650 V. per mil	6.6×10^{11} Ohm-Cm. 2×10^{14} Ohm-Cm.
Spacer Insulator	Molded Type 101 Nylon Natural Color	340 V. per mil	4.5×10^{12} Ohm-Cm.
Conductor Bar	18 Ga. Soft Steel—Roll Voltage drop .04 V. per amp formed—Zinc Coated	load per 100 ft.	



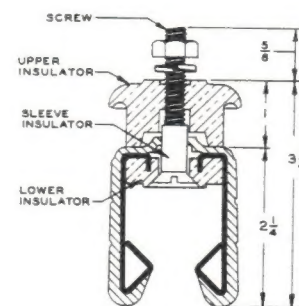
Cross section of conductor section

Material	Part Number	Application
Vinyl	PA 5746	140° to 250° temp. oil resistant
Neoprene	PA 5809	Economical and moisture resistant

Support Insulator Assembly (Unit B)—Product Number 6700670 part number PA 5747, weight 1/2 lb.

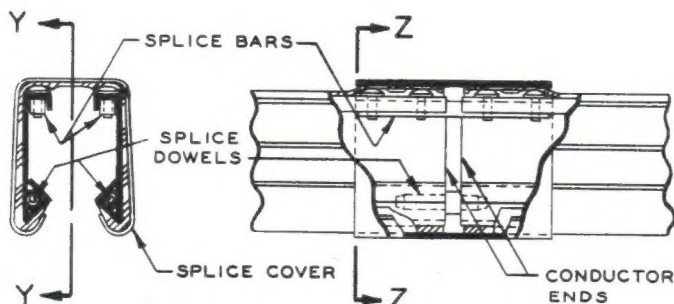
Specifications

Part	Material	Electrical Properties	
		Dielectric Strength	Approx. Volume Resistivity
Upper Insulator	Durez No. 791 Phenolic	300 V. per mil	1×10^{12} Ohm-Cm.
Lower Insulator	Molded Type 101 Nylon Natural Color	340 V. per mil	4.5×10^{12} Ohm-Cm.
Sleeve Insulator	Molded Type 101 Nylon	—	—
Screw	3/16 Flat Hd. Mach. Screw w/ nut and lock washer		



Support insulator cross section

Splice Assembly (Unit C)—Product Number 6700680 part number PA5749, weight 3/4 lb.



Specifications

Part	Material	Remarks
Splice Bar	Steel—Zinc Pl.	w/ screws
Splice Dowel	Steel—Zinc Pl.	w/ center rib stop
Splice Cover	1/16 Rigid Polyvinyl Chloride	Extruded

End Closure (Unit D)—Product Number 6700720 part number PA5750, weight 1/2 lb.

Same as the splice cover in the specifications for splice assembly—with 1/2 inch black laminated phenolic end stop added.

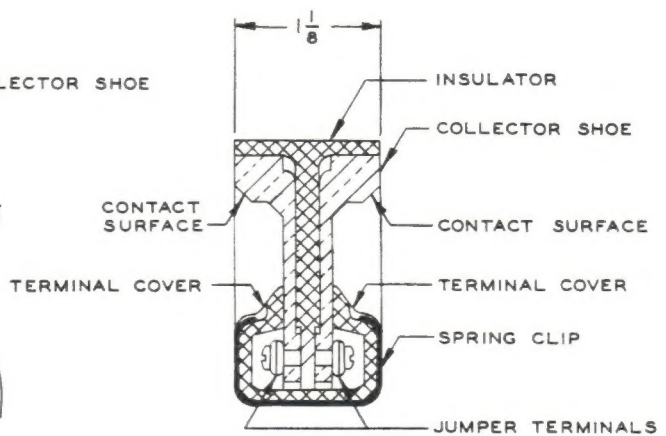
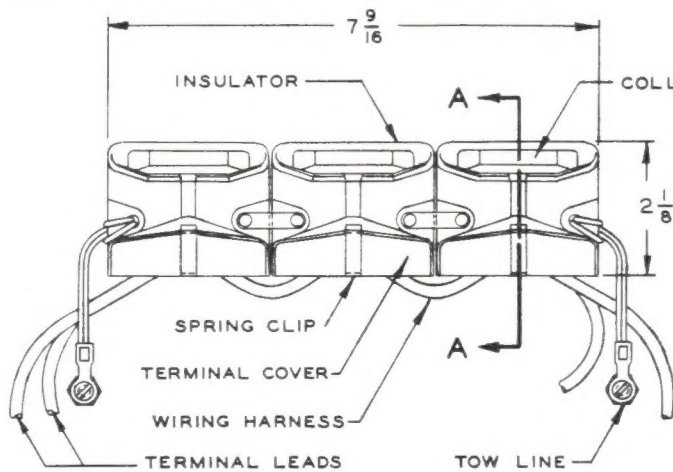
Power Feed (Unit F)—Product Number 6700700

2 pole—100 amp—600 V, for number 14 to number 4 AWG leads
part number PA 5751, weight 3/4 lb.

Specifications

Part	Material
Housing, Molded, 3 Pc.	Durez No. 791 Phenolic
Terminal Lugs	Precision Cast Brass

Current Collector (Unit E)—Product Number 6700690
 2 pole—30 amp—600 V, part number PA5752, 18 lbs.



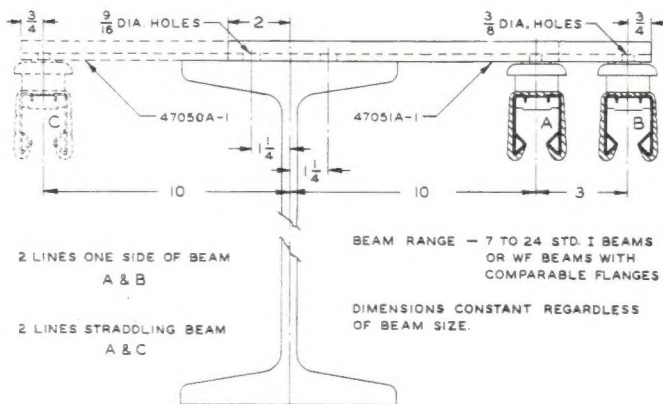
Section A-A enlarged.

Specifications

Part
 Insulator Parts &
 Terminal Covers
 Collector Shoes
 Connecting Links
 Tow Lead
 Collector Terminal
 Leads
 Spring Clip

Material
 Durez FM 1132 high impact phenolic
 Manganese Bronze Casting—Brinell hardness approx. 190
 Hard Brass
 Braided Nylon Cord
 No. 40 Copper Wire—14 ga.—420 strands—with
 one paper wrap and 3/64" Neoprene insulation
 Formed blue steel, Parkerized

Support Bracket (Unit G)—Product Number 6700710



Part Number	47050A-1	47051A-1
Length	21"	15"
Weight	4 lbs.	3 lbs.

Optional Equipment

Cleaning shoe with mounting bracket—may be used where excessive foreign materials accumulate on the conductor bars thereby causing arcing of the power collectors. Part number PA5808. Weight 1½ pounds. Cleaning head is constructed of molded polyurethane with multiple blades; dimensions 3¾ x 2¼ x 1¼. Collector bracket is 7¾" c/c from tow line connections. Top of bracket to mounting hole center line. Tow leads are standard PF-4440.

Bending Irons

Used to bend Wright enclosed electrification around curved track radius. Part number PA6150.

NOTE: Wright enclosed electrification is offered only as complete assemblies, consisting of Units A, B, C, D, F, and G. Current collectors, Unit E, are offered with hoists, cranes, and crane components. Individual parts may be ordered through the Hoist & Crane Division Service Department.



Chain & Lifting Products Division

A member of the Acco Material Handling Group

76 Acco Drive, P.O. Box 792, York, PA 17405
 Telephone 717 741-4863
 FAX 717 741-4956 Telex 84-0412

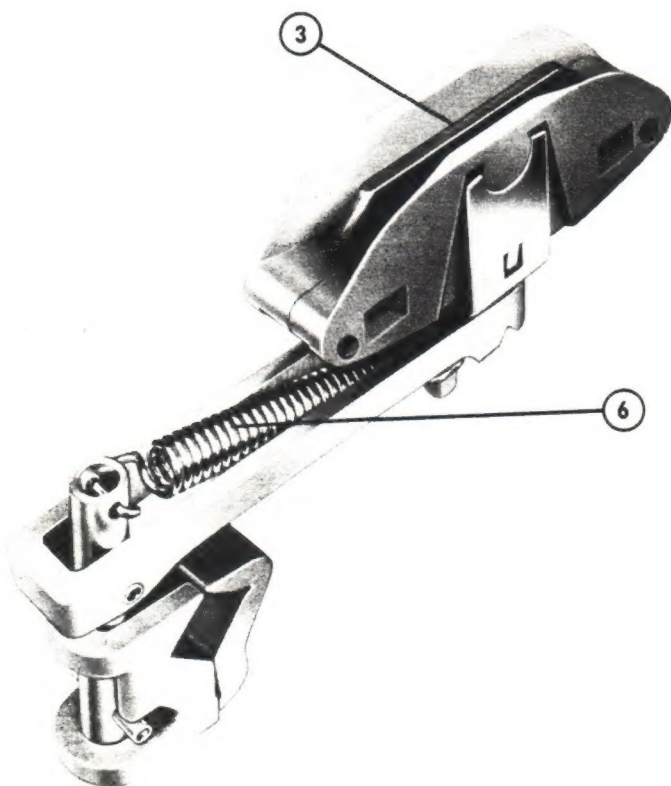
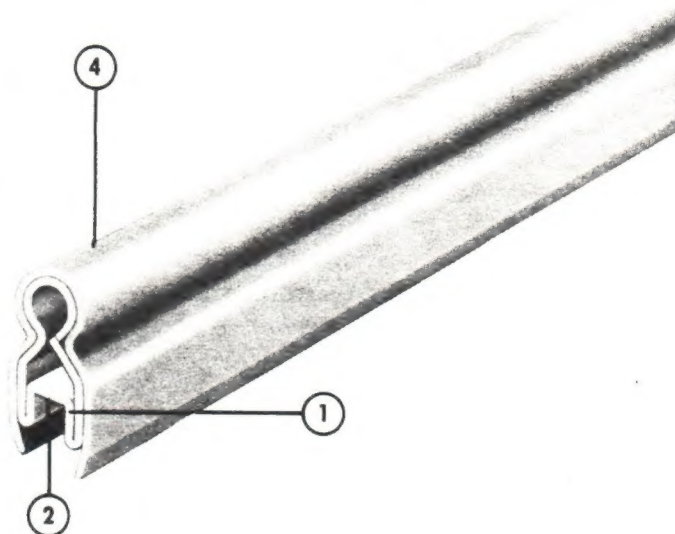
Series C enclosed electrification for monorail, bridge, and runway electrification is offered only as complete assemblies, consisting of the conductor system (Unit A), support hanger clamps (Unit B), splice assembly (Unit C), and cap (Unit D) and power feed (Unit F).

Current collectors (Unit E) are offered with hoists, cranes, and crane components.

Individual parts may be ordered through the Hoist & Crane Division Service Department.

Features

1. **METAL GUIDEWAYS** (not plastic) assure positive tracking of collector shoe. Collector tracks with or without insulating cover.
2. **FLAT CONTACT SURFACE** for long conductor wear and greatest possible sliding contact area.
3. **CONTACT SHOE** with flat contact surface of sintered copper and graphite, self-lubricating for effective draw of current to collectors.
4. **SKIN-TIGHT INSULATION** runs cooler, will not deform under clamp pressure.
5. **COMPACT MOUNTING** of conductor in vertical or horizontal position without special parts or fittings.
6. **PANTOGRAPH SPRING** suspension of collector yields even pressure to shoe throughout stroke, providing maximum electrical and mechanical performance.
7. **SLIDE-ON JOINT** for fast, easy installation.



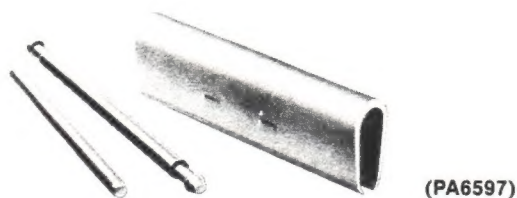
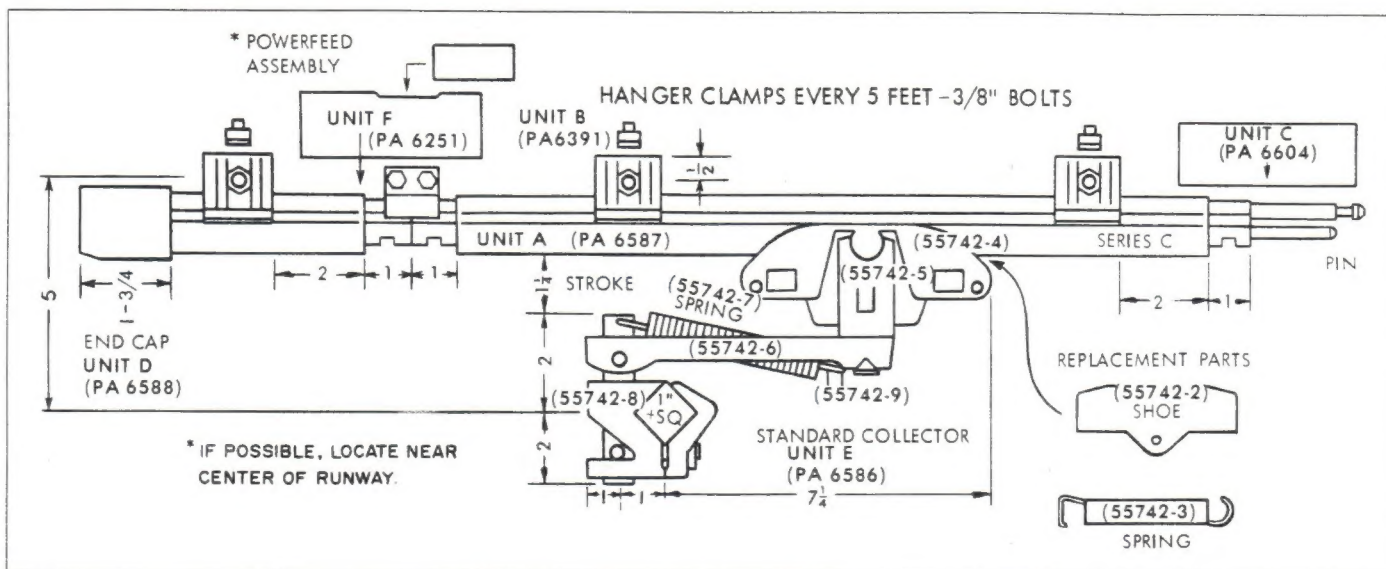
for cranes, conveyors, hoists, monorails, automated storage and retriever systems and other electrification applications

The Series C system is an integral insulated conductor which provides years of reliable, economical, trouble-free service. It is designed for compact, low-cost installation and minimum maintenance.

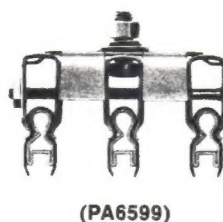
The Series C conductor can be mounted in any plane. In wet atmospheres the system should be shielded with a protective hood. In dirty and dusty atmospheres mount the conductor in downturn position.

Insulating cover furnished as standard is orange rigid PVC extrusion, 160°F heat distortion point at 260 psi, self-extinguishing. High heat cover furnished when specified is red Lexan extrusion, 260°F heat distortion point at 260 psi, self-extinguishing.

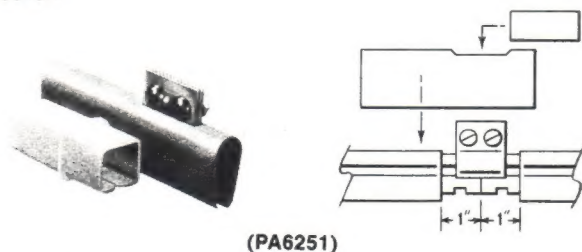
Series C is furnished in 10 foot lengths assembled complete with insulating cover and joint fittings. Ampere ratings are based on continuous service with a 30°C rise.



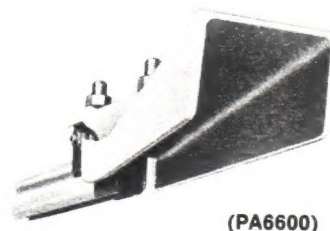
Extra Joint Kits for completing field fabricated joints include connector pins, a splice clip for copper bars, and a snap-on insulating cover.



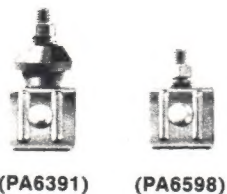
Triplet Hanger Clamps. Used where 1 1/2" spacing is permissible. Collectors must be staggered for free motion. Only for clean, dry inside applications.



Powerfeeds provide electrical connections from power source to conductor bar and may be located at any point, preferably near the center of the system. The powerfeed is 1 1/4" long, clamps to the top lobe of the conductor with 1/4" screws. The powerfeed is insulated by a cover and a nylon cap. Feeder lugs furnished by request only.



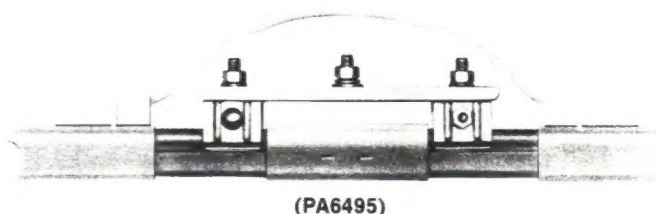
Pick-Up Guides—Used with a self-centering collector to allow the collector to leave the conductor and be retracted on return. For discontinuous circuits such as bridge controls or long breaks in the conductor, as at firedoors. Requires conductors to be mounted on 3" centers. Provided with hanger clamp and end cap.



Hanger Clamps made of steel, zinc plated, are spaced every 5 feet **even on curves**, providing solid support to the conductor. One 3/8" x 1" bolt fastens the hanger clamp to a hanger bracket (not furnished, usually 1 1/2" x 1 1/2" angle). A 1/4" cross bolt secures the conductor either sliding or anchor tight in the clamp. Spool-insulated hanger clamps are for outdoor use and for wet or dirty locations.



End Caps—The black nylon end cap is driven onto the end of the conductor to complete the insulation. Contoured to permit passage of the collector shoe, end caps can be used in pairs at switch transfers, interlocks, expansion gaps, and isolation points.



Isolation Points and Expansion Gaps—Isolation gaps are used to insulate adjacent conductor systems from each other as for repair bays or separate control circuits. Hanger clamps held in the grooved **Gap Guide Bracket** align the two conductors. End caps complete the installation.

Expansion gaps are required every 150 feet for steel conductors and every 100 feet for copper conductors, this length expanding 1" in 100°F temperature change. The **Gap Guide Bracket** is used for this purpose. Two extra powerfeeds and a jumper are required to bridge the gap electrically.



WRIGHT[®] CRANES MODIFICATIONS & ACCESSORIES

(Does not include modifications and accessories for push-pull cranes in series 51. Contact factory for push-pull crane modifications and accessories.)

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BALLAST RESISTORS

Ballast resistors for product line 53 are standard for 100 and 150 FPM and may be added to bridge with 60 FPM to provide smoother acceleration and load control.

BRIDGE BEAM COPE

Bridge beam is set up between end trucks to reduce headroom on underhung cranes.

BRIDGE BEAM OVERHANG FOR UNDERHUNG CRANES

Cantilever portion of bridge beam beyond centerline of runway. Standard overhang is as shown on data sheets. Additional overhang is available.

BRIDGE ELECTRIFICATION

Standard electrification for all cranes is festoon cable. Wright and Series C electrification is available. Refer to electrification data sheets.

BRIDGE TRAVEL LIMIT SWITCH

An electrical device to limit bridge travel in either direction.

CABLE REELS

Standard cable reels are also available. To select proper wire size determine the sum of the full load amps from the table presented in Power Supply Cable. See cable reel page for complete specifications and accessories.

CABS

Dummy type for use with pendant push-button station and mounted on bridge only of top running double girder cranes. Push-button station may be travelling type or if stationary, must be located on bridge at cab end of crane. Included is operator seat and clamp type support for push-button station.

Cabs with lever operated master switch control are available on application.

COLLECTORS

Series C collectors and **Wright** collectors are available as standard. (See electrification data pages.)

Other types of collectors are available on application.

CONTROL ENCLOSURES

The following NEMA type enclosures are available on **Wright** products:

NEMA Type 1 — General Purpose Indoor. Standard for cranes, these enclosures are intended for use indoors primarily to prevent accidental contact of personnel with the enclosed equipment in area where unusual service conditions do not exist.

NEMA Type 3R — Dust-tight, Rain-proof, and Sleet (Ice)-resistant Outdoor. These enclosures are intended for use outdoors to protect the enclosed equipment against wind-blown dust and water. They are not sleet-proof. They may be ventilated or nonventilated.

NEMA Type 4 — Water-tight and Dust-tight — Indoors — Nonventilated. These enclosures are intended for use indoors to protect the enclosed equipment against splashing water, seepage of water, falling or hose-directed water, and severe external condensation. NOTE: For acid conditions use NEMA 4 enclosures plus acid-resistant paint.

NEMA Type 7 — Class 1, Group D only — Indoor Hazardous Location — Air-Brake Equipment — Nonventilated. These enclosures are intended for use indoors in atmospheres and locations defined as Class 1 and Group D in the National Electrical Code.

NEMA Type 9 — Class 2, Group E, F, or G — Indoor Hazardous Locations — Air Brake Equipment — Nonventilated. These enclosures are intended for use indoors in an atmosphere defined as Class 2 and Group E, F, or G in the National Electrical Code.

NEMA Type 12 — Industrial Use — Dust-tight and Drip-tight — Indoor — Ventilated or nonventilated. These enclosures are intended for use indoors to protect the enclosed equipment against fibers, flyings, lint, dust and dirt, and light splashing, seepage, dripping, and external condensation of non-corrosive liquids.

CRANE LIGHTS

Incandescent type 500 watt with shock absorber base mounted on crane equally spaced over span. Lights actuated through mainline contactor.

DRAWINGS

Six copies of standard dimensional data will be furnished, upon request, to the Buyer without charge if request is made within 30 days from receipt of a purchase order.

Additional copies, special prints and reproductions, if required, can be furnished at an additional cost based on engineering time and material expense.

EXPORT PACKAGING

Export packaging is available for all equipment at extra cost.

FIELD SERVICE BY FACTORY PERSONNEL

Erection supervision, start-up supervision and engineering services are available by Acco's Hoist & Crane Division factory personnel. Cost for these services will be quoted on the basis of travel expenses and duration of rendered service.

FLANGE WIDTHS

Underhung end trucks are designed to operate on runway beam range as indicated on end truck data sheets. Design for operation on large flange widths is available.

FOOTWALK FOR TOP RUNNING DOUBLE BEAM CRANES

Footwalk is available mounted on drive side of bridge and will be designed with anti-slip plate, 42" high handrail with intermediate railing and a suitable toe guard.

FUSES

Fuses are furnished for complete power circuits, individual motors, and control circuit transformers depending on the requirements of the application.

HAND CHAIN

Standard drop of hand chain is established by the lift of the equipment furnished. Special drops must be specified.

Standard hand chain is zinc peen plated. Aluminum and special plated chain is available on application.

KICK-UP ROLLERS

Anti-tipping device mounted on underside of end truck for use with cranes having a bridge beam overhang greater than maximum allowable design.

MAINLINE CONTACTOR

Mainline contactor is furnished and used for shutting off power to the power circuit of the equipment and is actuated by start-stop buttons of push-button station.

MOTORS

Standard Motors — All 230/460 volt, single speed and variable speed motors are reconnectable. Two speed motors are not reconnectable.

Special Motors — Includes slow speed motors, explosion-proof motors, and motors requiring a special power supply.

Slow Speed Motors — Special slow speed motors to reduce the minimum speeds are available for single speed and variable speed only.

Explosion-Proof Motors — As specified by the NEC for Class 1, Group D, Division 1, and Class 2, Groups E, F, and G, Division 1 (hazardous locations.) Explosion-proof motors can be furnished for single speed only. TENV squirrel cage motors can be used in Division 2 locations.

Special Power Supply — The supply of voltage must be known in order to select the proper motor. The motor nameplate voltage will normally be less than the nominal power system voltage. A joint committee of the Edison Electric Institute and NEMA has recommended standards for both power supply system voltage and motor nameplate voltages which are as follows:

POLYPHASE 60-HERTZ

Nominal Power System Volts	NEMA Standard Motor Nameplate Volts
208	200
240	230
480	460
600	575

Direct Current — D.C. motors are available on application.

MOTOR INSULATION

Insulations are classified by their ability to withstand a specified temperature for a specified length of time without deteriorating.

The total allowable temperature is the sum of the ambient temperature in which the motor operates plus the heat generated by the motor.

Class of Insulation	Max. Allowable Ambient	Motor Nameplate Temperature Rise	Total Observable Temperature
B	60°C	55°C	115°C
F	80°C	55°C	135°C
H	100°C	55°C	155°C

Wright motors use Class B insulation (55° C temperature rise over a 60° C ambient). If used in a normal 40° C ambient, the temperature rise will still not exceed 55° C. Operating thus at 20° below the total allowable temperature will extend the life of the insulation. Class B insulated motors with a 75° temperature rise over a 40° C ambient do not have this advantage.

Special treatment of insulation is recommended where motor windings may be exposed to one or more of the following conditions: (When ordering specify conditions applying).

1. High humidity and fungus (tropical protection).
2. Steam, excess moisture from vapor, splashing, or dripping water (e.g. dry house or packing plant.)
3. Excessive amounts of acid or alkali vapor, fumes, or dust (e.g. chemical plant.)
4. Conducting or abrasive dusts (e.g. cast iron dust, carbon, graphite, coke, etc.)
5. A combination of conducting or abrasive dusts with sulphur fumes, moisture, etc. (e.g. power house or boiler room.)

MOTOR OVERHEAT PROTECTION

Bi-metallic, automatic thermostat built into motor windings which causes motor starter to be de-energized when winding temperature of the motor exceeds the limit. Provides full running protection against overheating because of:

Gradual overloads, plugging duty, increase in ambient temperature, clogging or obstructing of normal ventilating passages or separate sources of ventilation; variation in line voltage; any overheating in which the temperature is gradual.

Overheat monitoring depends upon supplementary thermal overload relay to protect against high running currents, single phasing, or extremely heavy overloads.

Note: Motor overheat protectors and thermal overload relays are not suitable for protection against short-circuit or ground-fault currents. Protection against these conditions must be provided by fuses or circuit breakers in the branch circuit supplying power to the equipment.

PAINT

All products are painted with yellow air-dry enamel #18538B after proper surface preparation. This paint conforms to Federal Standard Color Chart #595, Type 13538.

Colors other than standard and special paints for acid and other conditions are available at extra cost.

PUSH BUTTON — FULL LENGTH TRAVELLING

Push button is mounted from rigid track complete with ball bearing trolleys. Push-button station pendent from terminated junction box.

REPAIR PLATFORM

This is for top running double beam cranes. Stationary platform 12'-0" in length is located on either end of bridge designed with anti-slip plate, 42" high handrail with intermediate railing and a suitable toe guard.

RUNWAY RAILS

Double flange wheels are designed to operate on maximum asce rail as shown on data sheets. Wheels for larger rail sizes are available.

POWER SUPPLY CABLE

All cranes are furnished with power supply cables including connections to the hoist unit.

Two factors contribute to the selection of the proper size power cord; namely, the maximum current rating of the cord itself as established by the NEC and the voltage drop within the cord as determined by its length. In general, the voltage drop does not need to be considered if cord lengths are 50 feet or less. Determine the sum of full load amps from the following table:

HP	RPM	Approx. Full Load Current			
		200V	230V	460V	575V
1/4	1800	1.10	0.96	0.48	0.38
	1200	1.33	1.16	0.58	0.46
	900	1.67	1.45	0.73	0.58
1/3	1800	1.33	1.16	0.58	0.47
	1200	1.64	1.43	0.72	0.58
	900	2.01	1.75	0.88	0.71
1/2	1800	1.93	1.68	0.84	0.67
	1200	2.38	2.07	1.04	0.83
	900	3.34	2.90	1.45	1.16
3/4	1800	2.68	2.33	1.17	0.93
	1200	3.28	2.85	1.43	1.14
	900	3.97	3.45	1.73	1.38
1	1800	3.51	3.05	1.53	1.22
	1200	4.07	3.54	1.77	1.42
	900	4.30	3.74	1.87	1.50
1-1/2	1800	4.92	4.28	2.14	1.71
	1200	5.58	4.85	2.43	1.94
	900	6.68	5.81	2.91	2.32
2	1800	6.62	5.76	2.88	2.30
	1200	7.30	6.35	3.18	2.54
	900	8.29	7.21	3.61	2.88
3	1800	9.53	8.29	4.14	3.32
	1200	10.3	8.92	4.46	3.56
	900	11.7	10.20	5.09	4.08
5	1800	15.2	13.2	6.60	5.28
	1200	16.2	14.1	7.05	5.64
	900	17.9	15.6	7.80	6.24
7-1/2	1800	22.2	19.3	9.7	7.72
	1200	23.3	20.3	10.2	8.12
	900	27.4	23.8	11.9	9.51
10	1800	29.0	25.2	12.6	10.1
	1200	30.6	26.6	13.3	10.6
	900	33.2	28.9	14.5	11.6
	600	38.0	33.8	16.9	13.5
15	1800	43.8	38.1	19.1	15.2
	1200	45.9	39.9	20.0	16.0
20	1800	58.1	50.5	25.3	20.2
	1200	59.5	51.7	25.9	20.6
25	1800	72.1	62.7	31.3	25.0
	1200	74.4	64.7	32.3	25.8

The average full current values listed are for 3 phase, 60 Hertz A C induction horsepower rated motors. They are the most common voltage and speed rating of several manufactures and are to be used *only* as a guide for selecting suitable components for the motor branch circuit.

Next, select cord from table below:

WIRE SIZE	MAX. AMPS*
#14	15
#12	20
#10	25
# 8	35
# 6	45

*Based on 3 current carrying conductors

SERVICE MANUALS

One copy of the standard maintenance and parts manual will be furnished and included in the shipment, where possible, without charge as standard policy for each item of equipment covered on Buyer's purchase order.

Additional copies of standard manuals and special format manuals are available at extra cost.

SPACE HEATER

For the prevention of moisture condensation on the windings inside a motor or the components inside the control enclosures after shutdown and/or during prolonged periods of idleness. Recommended on hoists using tropical insulation, to reduce condensation. Specify location.

SPARK RESISTANT FEATURES

Spark resistant features are available; however, specifications will vary with the application and must originate from the purchaser. Bronze wheels and aluminum hand chains are available for these applications.

TESTING

1. All cranes are tested in accordance with Acco's standard procedure, which complies with industry standards and Federal regulations.
2. Three copies of test certification will be furnished at no additional cost if request is made at the time of the purchase order.
3. Special testing is available on application.

TIME RELAYS

Time relays are available in adjustable and non-adjustable types and are used to control acceleration of two speed and variable speed motors regardless of push button depression. One time delay is required for 2 speed and a minimum of two for variable speed controls.

TRACK CLAMPS

For hand operated cranes — jaw actuated device designed to secure bridge travel.

TRANSFER LATCHES

Mechanical interlock mechanism designed to lock together the adjacent ends of two cranes or a crane to a crossover or spur to allow the transfer of hoist unit.

WARNING DEVICE

Horn or bell to sound when bridge is in motion.

WARRANTY**1. Warranties:**

The Seller warrants to the original using buyer thereof that the goods sold under this Agreement are free from defects in workmanship and materials for a period of one year from the date of shipment to the using buyer or 2,000 hours of in-service time whichever period is shorter. No other express warranties are given and no affirmation of Seller or Seller's agents, by word or action, shall constitute a warranty.

All warranties on any equipment are terminated in the event it is (1) misused or involved in an accident, (2) repaired, altered or modified without Seller's consent (the replacement of a standard component by buyer shall not be deemed a repair or alteration under this paragraph), (3) not installed, maintained and operated in strict compliance with instructions furnished by Seller, or (4) worn, injured or damaged from abnormal or abusive use.

2. Disclaimer of Implied Warranties:

(a) SELLER MAKES NO WARRANTY OF MERCHANTABILITY IN RESPECT TO THE GOODS SOLD UNDER THIS AGREEMENT.

(b) This sale is made WITHOUT ANY WARRANTY BY SELLER THAT THE GOODS ARE SUITABLE FOR ANY PARTICULAR PURPOSE.

WIDE FLANGE RUNWAYS

Underhung end trucks are designed to operate on "S" shape beams. Wheels can be furnished for use on "W" shape beams.



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WRIGHT**MOTORIZED CRANES
SERIES 51, 52, 54, & 55
BRIDGE ELECTRIFICATION
CONDUCTOR REQUIREMENTS**

(Does not include push-pull cranes in Series 51. Contact factory for push-pull crane electrification.)

The number of bridge conductors shown in the tables below include mainline contactor mounted on bridge to comply with NEC and gravity type limit switch on hoist.

No additional conductors are required for timed speed steps on variable speed controls.

For control arrangements not shown contact the factory.

Push button station pendent from trolley hoist. Hoist and trolley control on hoist—Bridge control on bridge. Conductor requirements remain the same regardless of hoist or trolley speeds.

Bridge Manual	Bridge Single Speed	Bridge 2-Speed	Bridge 5 Step V.S.
3	8	9	12

No additional conductors required for bridge and/or trolley travel limit switch.

Push button station pendent or traveling from bridge. Hoist and trolley controls on hoist—Bridge control on bridge.

TROLLEY CONTROL	HOIST CONTROL		
	Single Speed	2-Speed	5 Step V.S.
Manual	6	7	10
Single Speed	8	9	12
Two Speed	9	10	13
5 Step V.S.	12	13	16

No additional conductors for bridge and/or trolley travel limit switch.

Push button station pendent or traveling from bridge. All controls on bridge—Hoist brake control located on hoist.

TROLLEY CONTROL	HOIST CONTROL		
	Single Speed	2-Speed	5 Step V.S.
Manual	7	10	10
Single Speed	10	12	13
Two Speed	12 ¹⁾	14 ¹⁾	15 ¹⁾
5 Step V.S.	13	15	16

No additional conductors for bridge travel limit switch.

For trolley travel limit switch add 3 conductors.

¹⁾ Trolley brake—add 1 conductor.

**Chain & Lifting Products Division**

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